PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/713,994
Filing Date	11/16/2000
First Named Inventor	KEDDIE James
Group Art Unit	1638
Examiner Name	KRUSE, David H.
Total Number of Pages in This Submission: 63	Attorney Docket Number: MBI-0022

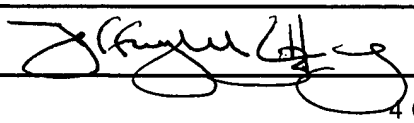
ENCLOSURES *(check all that apply)*

- [x] Fee Transmittal Form (in dupl., 2 pages)
  - [ ] Fee Attached
- [x] Amendment / Reply (in dupl., 6 pages)
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers *(for an Application)*
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petitionfor revival (in dupl., 3 pg)
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- [ ] Proprietary Information
- [ ] Status Letter
- [x] Other Enclosure(s) *(please identify below)*:

Return Receipt Postcard
Exhibits A-G (41 pages)

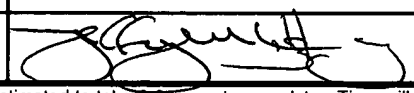
Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm *or* Individual name	Jeffrey M. Libby, Ph.D., Reg. No. 48,251 Mendel Biotechnology, Inc. 21375 Cabot Blvd., Hayward, California 94545
Signature	
Date	4 October, 2004

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: 10/4/2004

Typed or printed name	Jeffrey M. Libby		
Signature		Date	4 October, 2004

PTO/SB/17 (10-03)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 110..00

Complete if Known	
Application Number	09/713,994
Filing Date	November 16, 2000
First Named Inventor	KEDDIE James
Examiner Name	KRUSE. David H.
Art Unit	1638
Attorney Docket No.	MBI-0022

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☑ Deposit Account:

Deposit Account Number: 50-1025

Deposit Account Name: Mendel Biotechnology, Inc

The Director is authorized to: *(check all that apply)*

☑ Charge fee(s) indicated below ☑ Credit any overpayments

☑ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below		Fee Paid
Total Claims		-20** =		X		=
Independent Claims		- 3** =		X		=
Multiple Dependent						=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	110.00
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 110.00

SUBMITTED BY				(Complete *(if applicable)*)	
Name *(Print/Type)*	Jeffrey M. Libby	Registration No. *(Attorney/Agent)*	48,251	Telephone	510-259-6138
Signature				Date	04 October 2004

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

DRAFT
A

PTO/SB/61 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNAVOIDABLY UNDER 37 CFR 1.137(a)

Docket Number (Optional): MBI-0022

First Named Inventor: KEDDIE, James
Art Unit: 1638
Application Number: 09/713,994
Examiner: KRUSE, D.H.
Filed: 16 November, 2000
Title: GENES FOR MODIFYING PLANT TRAITS

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (703) 305-9282.

The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United Sates Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus any extensions of time actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION.

NOTE: A grantable petition requires the following items:
(1) Petition fee.
(2) Reply and/or issue fee.
(3) Terminal disclaimer with disclaimer fee-required for all utility and plant applications filed before June 8, 1995, and for all design applications; and
(4) Adequate showing of the cause of unavoidable delay.

1. Petition fee

☐ Small entity – fee $_____ (37 CFR 1.17(l)). Applicant claims small entity status. See 37 CFR 1.27.

☒ Other than small entity – fee $ 110.00 (37 CFR 1.17(l)).

2. Reply and/or fee

A The reply and/or fee to the above-noted Office action in the form of Statement under 37CFR 1.821-5, and Submission (identify the type of reply): of Courtesy Copy of Appendix A,

☒ has been filed previously on Nov. 16, 2000, and Apr. 15, 2003.

☐ is enclosed herewith.

B The issue fee of $ _____

☐ has been filed previously on _____.

☐ is enclosed herewith.

10/08/2004 AWONDAF1 00000080 501025 09713994
01 FC:1452 110.00 DA

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNAVOIDABLY UNDER 37 CFR 1.137(a)

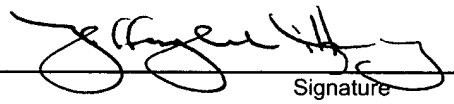
3. Terminal disclaimer with disclaimer fee

☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.

☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of $ _____ for a small entity or $ _____ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

4. An adequate showing of the cause of the delay, and that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition under 37 CFR 1.137(a) was unavoidable, is enclosed.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.



Signature

October 4, 2004
Date

Jeffrey M. Libby
Typed or printed name

48,251
Registration Number, if applicable

Mendel Biotechnology, Inc.
Address

(510) 259-6138
Telephone Number

21375 Cabot Blvd, Hayward, CA 9454
Address

Enclosure
☒ Fee Payment
☒ Reply (on page 3 of this form)
☐ Terminal Disclaimer Form
☒ Additional sheets containing statements establishing unavoidable delay
☐ _____

CERTIFICATE OF MAILING OR TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is being:

☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to **Mail Stop Petition**, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 872-9306.

October 4, 2004
Date

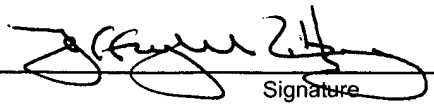
Signature

Jeffrey M. Libby
Typed or printed name of person signing certificate

PTO/SB/61 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNAVOIDABLY UNDER 37 CFR 1.137(a)

NOTE: The following showing of the cause of unavoidable delay must be signed by all applicants or by any other party who is presenting statements concerning the cause of delay.



Signature

October 4, 2004
Date

Jeffrey M. Libby
Typed or printed name

48,251
Registration Number, if applicable

(In the space provided below, please explain in detail the reasons for the delay in filing a proper reply.)

Please see attached document "Response to Notice of Abandonment, filed with Petition for Revival of an Application for Patent Abandoned Unavoidably under 37 CFR 1.137(a)"

(Please attach additional sheets if additional space is needed.)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.:	:	09/713,994
Applicant :	:	KEDDIE, James et al.
Filing Date:	:	November 16, 2000
Group Art Unit:	:	1638
Examiner:	:	KRUSE, David H.
Docket No:	:	MBI-0022
Customer No.:	:	23678

Mail Stop Petition
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Response to Notice of Abandonment, filed with Petition for Revival of an Application for Patent Abandoned Unavoidably under 37 CFR 1.137(a)

Dear Sir:

In response to the Notice of Abandonment dated 13 April, 2004, Applicants submit the following arguments, and the requisite petition fee.

Errors made by the USPTO that contributed to this abandonment are summarized here and provided in greater detail below.

Summary

- The USPTO lost or misplaced original CD-ROMs containing Appendix A, which included sequences and trait descriptions.
- In a telephone conversation, the Examiner requested a replacement copy of Appendix A. The USPTO then lost or misplaced the replacement CD-ROM of Appendix A.
- The original Sequence Listing was filed in paper and computer readable format (CRF). A statement under 37 CFR 1.821-1.825 was provided stating that the content of both formats was the same. In a subsequent amendment, a polypeptide sequence that was predicted by SEQ ID NO: 15 in the Sequence Listing was added to a Substitute Sequence Listing. Thus,

- the polypeptide sequence had been provided in paper and CRF formats, and it was stated that the two were the same. The amendment and a subsequent response noted that the polypeptide sequence had been filed with original Appendix A provided "in the original CD" (and thus was in a CRF).
- Shortly after the telephonic request for a replacement of Appendix A, an Office communication was mailed requesting a replacement copy of Appendix A, a CRF of the substitute Sequence Listing, and a statement that the the paper and electronic contents were the same. This Office letter was sent to the wrong address, that of a former attorney of record from whom authority had been revoked by Applicants. This Office letter never reached Applicants.
- When applicants allegedly failed to respond to the Office letter sent to the wrong address, and when applicants had in fact responded in kind in their amemdments and two separate attempts to place a copy of Appendix A at the USPTO, the application was abandoned.

Detailed description of events leading up to abandonment

On 13 April, 2004, a Notice of Abandonment (Exhibit A) for application 09/713,994 was mailed for "failure to timely file a proper reply to the Office letter mailed on 10 June 2003" (Exhibit B, paper no. 18). Exhibits A and B were mailed to "Wiley Rein & Fielding, LLP". The Notice of Abandonment indicates that "[n]o reply was received". Applicants have recently obtained PAIR access, and have now been able to determine some of the miscues led to the abandonment of this application. In fact, Applicants did reply to each and every communication made to Applicants, and did respond to the Examiner's request for a copy of an Appendix that had been lost or misplaced by the USPTO. Applicants had also previously submitted a statement averring that the content of the paper and CRF Sequence Listings were the same. For these reasons, provided in greater detail below, Applicants believe this application was unavoidably abandoned.

The Notice of Abandonment states that Applicants were not fully responsive to the earlier Office communication of 10 June, 2003 because: (a) an additional sequence was added to a Substitute Sequence Listing and no CRF or statement that the paper copy and the CRF were the same were included, and (b) CD-ROM copies of Appendix A were not in the file and new copies were necessary.

However, included with the instant application as filed were a paper copy of the Sequence Listing, a CRF of the Sequence Listing, and a statement that the content of the two was the same. The Sequence Listing contained 109 polynucleotide sequences. The Application also included Appendix A on two CD-ROMs. These were noted on the Utility Patent Application Transmittal (Exhibit C). Appendix A comprised a number of nucleotide and polypeptide sequences in CRF, including those sequences in the Sequence Listing, and experimental observations associated with plants expressing the polypeptides.

An Amendment and Substitute Sequence Listing wer filed 30 December, 2002, which Applicants believed would help clarify claims to polypeptides. A 110^{th} sequence was added to the Sequence Listing; no new matter was added by this amendment for reasons noted below.

As to the requirement in the Office letter of 10 June 2003 that a copy of Appendix A be submitted because the Appendix was not in the file wrapper, Applicants mailed a replacement Appendix A to the USPTO on two (2) separate occasions; both of said submissions were lost or misplaced by the USPTO. The first time Appendix A was submitted was with the application as filed, as noted on the Application Transmittal (Exhibit C). The second submission (Exhibit E) was in response to the Examiner's telephonic request (Exhibit F) made on March 31, 2003. Applicant's Exhibit E includes a statement that the replacement copy of Appendix A was identical to that originally filed with the instant application. Exhibit E also stated that "Appendix A as submitted with the instant application at the time of filing contained the polynucleotide and polypeptide sequences for SEQ ID NO: 110 (G896)". Statements 3 and 4 in Exhibit E noted that SEQ ID NO: 110 was also present in an earlier copending provisional application claimed as a priority application. Thus, SEQ ID NO: 110 was not new matter, as noted in Exhibit D, the amendment in which it was added, and Exhibit E. Attached to Exhibit E is a copy of a stamped, returned postcard indicating receipt by the USPTO of the CD containing the replacement copy of Appendix A, the Transmittal Form mailed with the replacement

copy and Exhibit E showing "Submission of Courtesy Copy of Appendix A", and four pages printed from the CRF Appendix A showing the SEQ ID NO: 110 entry and polypeptide sequence.

In the telephone interview of 31 March, 2003, the Examiner also requested clarification of several of the claims of the instant application. Applicants promptly responded to all of the requests that were made in the interview by transmitting a clarification of the claims the very same day (the claims in question were canceled; see "Supplemental Amendment" attached to Exhibit F). Applicants responded within 15 days by preparing and mailing to the USPTO the replacement copy of Appendix A, after diligently confirming that the contents were the same as filed. The telephone interview made not reference to the sequence added to a Substitute Sequence Listing filed in a prior amendment, and the lack of a CRF or statement that the paper copy and the CRF were the same.

On 10 June, 2003, the USPTO mailed to Applicants the aforemented Office letter once again requesting a copy of Appendix A, and noting the lack of a CRF or statement that the paper copy and the CRF were the same with the Amendment filed adding one sequence to the Sequence Listing. The request for a replacement Appendix A was the same request the Examiner had made two months prior, and to which Applicants had just replied. However, Applicants never received this mailing. Prior to this mailing on 5 August, 2002, Applicants filed a Revocation of Prior Power of Attorney and Power of Attorney, naming agents or attorneys at Morrison and Foerster, LLP, as well as Jeffrey M. Libby and Matthew Kaser of Mendel Biotechnology, Inc. Copies of this Revocation of Prior Power of Attorney and Power of Attorney, the transmittal and self-addressed, stamped return postcard showing receipt by the USPTO of these documents are attached (Exhibit G). However, Office communications associated with the instant application continued to be forwarded to the former representatives of Applicants, including the Office letter of 10 June, 2003. The latter and other documents were not forwarded to Applicants or their latest representatives. In fact, Applicants only obtained the 10 June, 2003 Office letter and the Notice of Abandonment though PARE, well after they were each mailed to the wrong address.

In spite of their not having received the Office letter of 10 June, 2003, Applicants had already responded to the Examiner's request with the replacement copy of Appendix A, and had submitted CRF and paper versions of the Sequence Listing, and had stated that these were the same in content. Applicants added SEQ ID NO: 110, that was not new matter, in a Substitute Sequence Listing. The

amendment of Exhibit D and the later filed Exhibit E stated that SEQ ID NO: 110 added to the paper copy of the Sequence Listing was the same as the sequence filed as a CRF in originally filed Appendix A (and was thus the same in both paper format and CRF).

If the Examiner needed further clarification, this request never reached Applicants. Applicants were unaware of the Examiner's request to combine SEQ ID NO: 110 into a new Sequence Listing in CRF, since this communication was forwarded to the former attorney of record from whom authority to prosecute this application had been revoked. Had this request become known to Applicants, they would have responded as promptly as they had responded to the part of the request that was communicated to Applicants by telephone.

In conclusion, the instant application became abandoned for alleged failure to respond to two requests in an Office communication. However, two Office communications were made at approximately the same time (first by telephone, then by letter). Applicants did respond the former by resubmitting Appendix A, which again became lost at the USPTO, and were unaware of any other request by the Examiner because this was not communicated in the telephone interview and was not communicated to Applicants but to an attorney from whom authority had been revoked.

Applicants believe that as a result of these miscommunications, this application has been unavoidably abandoned.

Applicants have prepared yet another set (i.e., a third set) of copies of Appendix A in the form of two identical CD-ROMS, and will forward these to the appropriate Receiving Office pending action on this petition. Applicants have also prepared an electronic version of the Substitute Sequence Listing containing 110 sequences, including SEQ ID NO: 110, which will also be forwarded to the USPTO when appropriate.

For future reference, the contents of the CD-ROMs each containing the latest replacement of Appendix A is identical to the CD-ROMs containing Appendix A as originally filed. The contents of the CD-ROMs each containing the Substitute Sequence Listing in CRF is identical to the Sequence Listing as originally filed in both paper and computer readable format, except that SEQ ID NO: 110 is appended to the Sequence Listing as filed. No new matter is incorporated in these submissions.

Should the USPTO find that the holding of unavoidable abandonment is not sustained by the facts presented herein and in the records for this application, Applicants request that the application be considered unintentionally abandoned, and authorize the USPTO to charge such fee to Mendel Biotechnology, Inc. Deposit Account No. 50-1025. This document is submitted in duplicate.

Respectfully submitted,

MENDEL BIOTECHNOLOGY, INC.

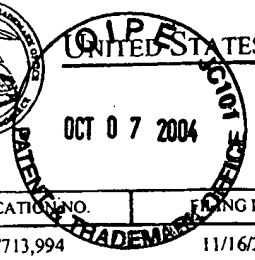
Date: October 4, 2004

By: _____

Jeffrey M. Libby, Ph.D.
Reg. No. 48,251

Mendel Biotechnology, Inc.
21375 Cabot Boulevard
Hayward, CA 94545
Phone: (510) 259-6138
Fax: (510) 264-0254

EXHIBIT A



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,994	11/16/2000	James Keddie	MBI-0022	7536

7590 04/13/2004

WILEY REIN & FIELDING LLP
Intellectual Property Department
1776 K Street NW
Washington, DC 20006

EXAMINER	
KRUSE, DAVID H	

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Notice of Abandonment	Application No.	Applicant(s)	
	09/713,994	KEDDIE ET AL.	
	Examiner	Art Unit	
	David H Kruse	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on *10 June 2003*.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☒ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
   (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☐ The reason(s) below:

David H Kruse
AU 1638

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

EXHIBIT B

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,994	11/16/2000	James Keddie	MBI-0022	7536

7590 06/10/2003

WILEY REIN & FIELDING LLP
Intellectual Property Department
1776 K Street NW
Washington, DC 20006

EXAMINER	
KRUSE, DAVID H	
ART UNIT	**PAPER NUMBER**
1638	18

DATE MAILED: 06/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATE
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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.

EXAMINER

ART UNIT	PAPER
	18

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents

The communication filed on 30 December 2002 is not fully responsive to the Office communication mailed 30 July 2002 for the reason(s) set forth on the attached Notice to Comply With the Sequence Rules or CRF Diskette Problem Report. Applicant must comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825) before the application can be examined under 35 U.S.C. §§ 131 and 132.

The Paper copy of the Sequence Listing submitted 30 December 2002 contains an additional SEQ ID NO, and no CRF or statement that the paper copy and the CRF are the same was submitted. A copy of the first page of the CRF of record is attached; item <160> showing 109 sequences.

In addition, the CD ROM copies of Appendix A are not in the file as communicated to Applicant's attorney, Jeff Libby. The Examin additionally requires new copies of the CD ROM copies of Appendix A to make a determination of New Matter in Applicant's submission of a new Paper copy of the Sequence Listing and amendment to the claims filed 30 December 2002. A copy of the Interview Summary of 31 March 2003 is attached hereto.

Any inquiry concerning this communication should be directed to Examiner David Kruse, Ph.D., Art Unit 1638, whose telephone number is (703) **306-4539.**

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

David Kruse Art Unit 1638
9 June 2003

Notice to Comply	Application No.	Applicant(s)
	09/713,994	KEDDIE ET AL.
	Examiner	Art Unit
	David H Kruse	1638

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirement for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must b submitted as required by 37 C.F.R. 1.825(d).

☒ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☐ 7. Other:

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, includ no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
PatentIn Software Program Support
Technical Assistance.....703-287-0200
To Purchase PatentIn Software.....703-306-2600

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR REPLY

EXHIBIT C

PTO/SB/05 (11-00)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Please type a plus sign (+) inside this box → ⊞

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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	MBI-0022
First Inventor	Keddie
Title	Genes for Modifying Plant Traits
Express Mail Label No.	EF242783216US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. ☐ Applicant claims small entity status. See 37 CFR 1.27.
3. ☒ Specification [*Total Pages* ☐] *(preferred arrangement set forth below)*
   - Descriptive title of the invention
   - Cross Reference to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to sequence listing, a table, or a computer program listing appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings *(if filed)*
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
4. ☐ Drawing(s) *(35 U.S.C. 113)* [*Total Sheets* ☐]
5. Oath or Declaration [*Total Pages* ☐]
   a. ☐ Newly executed (original or copy)
   b. ☐ Copy from a prior application (37 CFR 1.63 (d)) *(for continuation/divisional with Box 18 completed)*
      i. ☐ DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76

ADDRESS TO:

Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

7. ☒ CD-ROM or CD-R in duplicate, large table or Computer Program *(Appendix)*
8. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   a. ☒ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☒ paper
   c. ☒ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. ☐ Assignment Papers (cover sheet & document(s))
10. ☒ 37 CFR 3.73(b) Statement *(when there is an assignee)* ☒ Power of Attorney
11. ☐ English Translation Document *(if applicable)*
12. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
13. ☐ Preliminary Amendment
14. ☐ Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
15. ☐ Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. ☐ Request and Certification under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. ☐ Other: .....

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:*

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: ____/____

Prior application information: *Examiner* ____ *Group Art Unit:* ____

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

☐ *Customer Number or Bar Code Label* (Insert Customer No. or Attach bar code label here) or ☐ *Correspondence address below*

23678

PATENT TRADEMARK OFFICE

Name					
Address					
City		State		Zip Code	
Country		Telephone		Fax	

Name (Print/Type)	Karen Guerrero	Registration No. (Attorney/Agent)	37,071
Signature	Karen Guerrero	Date	Nov 16, 10

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	Art Unit:
	)	
Keddie et al.	)	Examiner:
	)	
Serial No:	)	
	)	
Filed:	)	
	)	
For: GENES FOR MODIFYING PLANT TRAITS	)	
	)	

STATEMENT TO SUPPORT FILING AND SUBMISSION IN ACCORDANCE WITH 37 C.F.R. 1.821-1.825

Assistant Commissioner of Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

In connection with the Sequence Listing submitted concurrently herewith, the undersigned hereby states that:

1. the submission filed herewith does not include new matter;

2. the content of the attached paper copy and the attached computer readable copy of the Sequence Listing are the same; and

3. all statements made herein of their own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United

States Code and that such willful false statements may jeopardize the validity of the application or patent resulting therefrom.

Respectfully submitted,

Date: Nov 16, 2000

Karen Guerrero
Reg. No. 37,071

Mendel Biotechnology, Inc.
21375 Cabot Blvd
Hayward, CA 94545

EXHIBIT D

Docket No.: MBI-0022

I hereby certify that this document and referenced attachments are being deposited with the United States Postal Service with sufficient postage as first class mail, addressed to: Commissioner for Patents, Washington, D.C. 20231
on December 27, 2002
By: _____
Printed: Jeffrey M. Libby

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: KEDDIE et al.
Title: **GENES FOR MODIFYING PLANT TRAITS**

Serial No.:	09/713,994	Filing Date:	16th November, 2000
Examiner:	KRUSE, D.H.	Group Art Unit:	1638

Commissioner for Patents
Washington, D.C. 20231

AMENDMENT

Sir:

In reference to the above-referenced application, please consider and make of record the following amendments and remarks.

Applicants herein request an additional two (2) month extension of time to respond to the Office action, thereby allowing Applicants until December 30, 2002, to respond. In addition, Applicants request entry of the following amendments to the application. The response is appended to show the changes made to the specification and claims, in compliance with 37 C.F.R. § 1.121.

IN THE SPECIFICATION

Please replace at page 1, lines 4-6 with the following paragraph:

-- The present invention claims the benefit from US Provisional Patent Application Serial Nos. 60/166,228 filed November 17, 1999 and 60/197,899 filed April 17, 2000 and 60/227,439 filed August 22, 2000. --

Please replace at page 31, line 1, with the following:

-- through the National Center for Biotechnology Information ([http://www.ncbi.nlm.nih.gov/] ncbi.nlm.nih; see at world wide web (www) National Institutes of Health US Government (gov) website). This --

Please replace the first paragraph of page 19 of the specification with the following paragraph.

-- *Biol.* 22:255-267), auxin-inducible promoters (such as that described in van der Kop et al (1999) *Plant Mol. Biol.* 39:979-990 or Baumann et al. (1999) *Plant Cell* 11:323-334), cytokinin-inducible promoter (Guevara-Garcia (1998) *Plant Mol. Biol.* 38:743-753), promoters responsive to gibberellin (Shi et al. (1998) *Plant Mol. Biol.* 38:1053-1060, Willmott et al. (1998) *Plant Mol. Biol.* 38:817-825) and the like. Additional promoters are those that elicit expression in response to heat (Ainley, et al. (1993) *Plant Mol. Biol.* 22: 13-23), light (*e.g.*, the pea rbcS-3A promoter, Kuhlemeier et al., (1989) *Plant Cell* 1:471-478, and the maize rbcS promoter, Schaffner and Sheen, (1991) *Plant Cell* 3: 997-1012); wounding (*e.g.*, *wunI*, Siebertz et al., (1989) *Plant Cell* 1: 961-968); pathogen resistance, and chemicals such as methyl jasminate or salicylic acid (Gatz et al., (1997) *Annu. Rev. Plant Physiol. Plant Mol. Biol.* 48: 89-108). In addition, the timing of the expression can be controlled by using promoters such as those acting at senescence (Gan and Amasino (1995) *Science* 270: 1986-1988); or late seed development (Odell et al. (1994) *Plant Physiol.* 106:447-458). --

In the claims:

Please cancel claim 26.

Please amend claims 1, 4, 13, 14, 25, and 27 as follows:

1. (Amended) A transgenic plant comprising a recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110;

(b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110 ;

(c) a nucleotide sequence comprising SEQ ID NO:15;

(d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c);

(e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and

(f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e).

2. (Reiterated) The transgenic plant of claim 1, further comprising a constitutive, inducible, or tissue-active promoter operably linked to said nucleotide sequence.

3. (Reiterated) The transgenic plant of claim 1, wherein the plant is selected from the group consisting of: soybean, wheat, corn, potato, cotton, rice, oilseed rape, sunflower, alfalfa, sugarcane, turf, banana, blackberry, blueberry, strawberry, raspberry, cantaloupe, carrot, cauliflower, coffee, cucumber, eggplant, grapes, honeydew, lettuce, mango, melon, onion, papaya, peas, peppers, pineapple, spinach, squash, sweet corn, tobacco, tomato, watermelon, rosaceous fruits, and vegetable brassicas.

4. (Amended) An isolated or recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110;

(b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110 ;

(c) a nucleotide sequence comprising NO:15;

(d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c);

(e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and

(f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e).

5. (Reiterated) The isolated or recombinant polynucleotide of claim 4, further comprising a constitutive, inducible, or tissue-active promoter operably linked to the nucleotide sequence.

6. (Reiterated) A cloning or expression vector comprising the isolated or recombinant polynucleotide of claim 4.

7. (Reiterated) A cell comprising the cloning or expression vector of claim 6.

8. (Reiterated) A transgenic plant comprising the isolated or recombinant polynucleotide of claim 4.

13. (Amended) A method for producing a modified plant having a modified trait, the method comprising : (i) transforming a plant with the isolated or recombinant polynucleotide of claim 4, thereby producing a modified plant, and (ii) selecting the modified plant for a modified trait thereby providing the modified plant with a modified trait, wherein the trait so modified is that of increased resistance to fungal pathogens.

14. (Amended) The method of claim 13 wherein the polynucleotide is the polynucleotide of claim 4.

25. (Amended) A plant comprising altered expression levels of the isolated or recombinant polynucleotide of claim 4.

27. (Amended) A plant lacking a nucleotide sequence of the polynucleotide of claim 4.

REMARKS

Amendments to the specification correct typographical errors; and provide a correct Application No. for a priority provisional application that had been claimed at the time of filing. No new matter is added to the specification by any of these amendments. Entry of these amendments is respectfully requested.

A copy of the above amendments to the specification showing where changes where made is appended to this communication and is titled "Version to Show Changes Made".

The Examiner is respectfully reminded that, upon allowance of the claims to the above products, the process for making and using same, i.e., the claims of Groups I, V, VI, and IX, must be rejoined. See the Commissioner's Notice in the Official Gazette of March 26, 1996, entitled "Guidance on Treatment of Product and Process Claims in light of In re Ochiai, In re Brouwer and 35 U.S.C. § 103(b)" which sets

forth the rules, upon allowance of product claims, for rejoinder of process claims covering the same scope of products.

Applicants have canceled claims 9-12, 15-24, and 26.

Support for the amendments to claim 1 is found in claim 1 as originally filed and in the specification at page 1, lines 32-33; at page 2, lines 1-3; and at page 5, lines 23-24.

Support for the amendments to claim 4 is found in claim 4 as originally filed and in the specification at page 1, lines 32-33; at page 2, lines 1-3; and at page 5, lines 23-24.

Support for the amendments to claim 13 is found in claim 13 as originally filed and in the specification at page 3, lines 4-7; at page 40, lines 28-30; and on the first page of Figure 2, at line SEQ ID NO: 15, G896.

Claims 14 and 25 have been amended in response to the Examiner's objections.

Claim 27 has been amended to place the claim in proper dependent form; support for the amendment can be found in the specification at page 28, lines 3-16; at page 36, lines 13-33 and continued on pages 37-40; and in Figure 2, at SEQ ID NO: 15.

Response to Examiner's Detailed Action

1. At page 2, first paragraph of the Examiner's Office action (Paper No. 11, mailed 07/30/2002), the Examiner has inadvertently introduced a typographical error into the Office action when referring to "SEQ ID NO:15(G986)". Applicants disclosed in Figure 1, column 2 (GID), that SEQ ID NO:15 refers to Mendel internal code reference number G896, not G986.

6. Applicants have submitted corrected Figure 1 and corrected Figure 2 as formal drawings to conform to the draftsperson's objections and comments. No new matter is introduced by such corrected figures and entry of the corrected Figure 1 and Figure 2 is respectfully requested.

7. Applicants respectfully submit that an appendix (Appendix A) was submitted at the time of filing the instant application. Applicants have herewith included a copy of the Patent Application Transmittal Form which clearly shows that a set of CD-ROMs were submitted as an Appendix (see Box 7 of Application Elements) (Exhibit 1).

8. Applicants have amended the specification to remove text which could be identified as an

embedded hyperlink and/or other form of browser-executable code. Applicants submit that the replacement text cannot be identified as an embedded hyperlink and/or other form of browser-executable code. Applicants believe no new matter has been introduced by this amendment.

Claim Objections

The Examiner has objected to claims 1-8, 13, 14, 25 and 26 because of the following informalities: the Examiner stated that the claims are directed to non-elected SEQ ID NOs, and should be amended to remove any reference to non-elected inventions and that appropriate correction is required.

The Examiner suggested that at claim 14, the phrase "a polynucleotide of claim 4" should read -- "the polynucleotide of claim 4" -- because claim 4 is directed to an isolated or recombinant polynucleotide in the singular.

The Examiner suggested that at claim 25, the phrase "an isolated or recombinant polynucleotide of claim 4" should read -- "the polynucleotide of claim 4" -- because claim 4 is directed to an isolated or recombinant polynucleotide in the singular.

The Examiner suggested that at claim 26, the phrase "an isolated or recombinant polypeptide of claim 11" should read -- "the isolated or recombinant polypeptide of claim 11" -- because claim 11 is directed to an isolated or recombinant polypeptide in the singular. The Examiner stated that, in addition, claim 26 is directed to a non-elected invention.

The Examiner stated that claim 26 is objected to under 37 C.F.R. § 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. The Examiner stated that Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The Examiner stated that claim 26 is directed to a "plant" whereas claim 11 is directed to "an isolated or recombinant polypeptide", hence claim 26 fails to further limit the polypeptide of claim 11.

In response, Applicants have canceled claim 26.

Applicants have amended claims 1 and 4 to remove any reference to non-elected inventions. Applicants have amended claims 14 and 25 as suggested by the Examiner.

Applicants therefore respectfully request that the Examiner withdraw the objections to claims 1-8, 13, 14, and 25.

Rejection of Claims 1-8, 13, 14, 25 and 26 under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 1-8, 13, 14, 25, and 26 under 35 U. S. C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner stated that claims 1 and 4 are indefinite because said claims refer to an "Appendix A" which does not appear in the specification, hence it is unclear what the metes and bounds of the claims are.

The Examiner stated that at claims 1 (a) and 4(a), the phrase "comprising a sequence selected from" is indefinite because it is unclear if Applicant is referring to the nucleotide sequence or the polypeptide, in view of the lack of an "Appending A" in the specification.

The Examiner stated that at claims 1(b) and 4(b), the phrase "comprising a conservative substituted variant of a polypeptide of (a)" because it is unclear how the polypeptide of (a) would also comprise a polypeptide comprising a conservative substituted variant. The Examiner stated that it is unclear if Applicant is claiming a fusion polypeptide or a variant of the polypeptide of (a) comprising a conservatively substituted amino acid sequence and that appropriate correction is required.

The Examiner stated that at claims 1 (d) and 4(d), the phrase "a nucleotide sequence of (c)" is indefinite and should read -- the nucleotide sequence of (c) --. The Examiner also suggested that Applicants see 1 (e, h, and i) and 4 (e, h, and i) for similar issues.

The Examiner stated that at claims 1(e) and 4(e), the phrase "hybridizes under stringent conditions" is indefinite because it is unclear what the metes and bounds of this limitation are. The Examiner stated that Applicant's definition on page 12, 1st paragraph, of the specification does not teach what time limits are used to produce said "stringent conditions".

The Examiner stated that at claims 1 (g) and 4(g), the limitation "any of (a)-(f)", renders the claims indefinite because it is unclear what the metes and bounds of the claims are.

The Examiner stated that at claims 1(l) and 4(l), the phrase "a conserved domain" is indefinite because the phrase is relative and does not state the metes and bounds of the claimed invention. The Examiner stated that Figure 1 teaches Applicant's interpretation of the conserved domain encoded by SEQ ID NO: 15, hence the claim should read -- the conserved domain encoded by a polynucleotide having the nucleotide sequence of SEQ ID NO: 15 --.

The Examiner stated that claim 13 is indefinite and generally narrative, said claim being directed to a method for producing a plant, but "altering" does not denote a positive method step by which one would practice the claimed method. The Examiner stated that the limitation "altering" does not state the metes and bounds of the claimed method. In addition, the Examiner continued, claim 13 is dependent upon a claim directed to the non-elected invention of claim 11, and should be amended accordingly.

The Examiner stated that at claim 26, it is unclear if the plant comprises "the activity of" an isolated or recombinant polypeptide or if the plant comprises [altered activity of] an isolated or recombinant polypeptide. Hence, the Examiner stated, it is unclear what the metes and bounds of the claimed invention are.

Applicants have cancelled claim 26. Applicants have amended claim 1 to recite: "A transgenic plant comprising a recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of: (a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110; (b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110; (c) a nucleotide sequence comprising SEQ ID NO:15; (d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c); (e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and (f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e)".

Applicants have amended claim 4 to recite: "An isolated or recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of: (a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110; (b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110; (c) a nucleotide sequence comprising SEQ ID NO:15; (d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c); (e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and (f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e)".

Applicants have amended claim 13 to recite: "A method for producing a modified plant having a modified trait, the method comprising: (i) transforming a plant with the isolated or recombinant polynucleotide of claim 4, thereby producing a modified plant, and (ii) selecting the modified plant for a modified trait thereby providing the modified plant with a modified trait, wherein the trait so modified is that of increased resistance to fungal pathogens".

Applicants have removed recitation to "fragment" and "at least 15 consecutive nucleotides of SEQ ID NO:15" in claims 1 and 4.

With regard to the Examiner's concern that a "time limit" is necessary to define "stringent conditions", on Page 11, lines 29-34, and page 12, lines 1-11, of the specification, Applicants note that the

factors that can influence the degree of stringency are disclosed.

The specification, at page 9, lines 27-34, recite hybridization and wash conditions are disclosed as being in references cited earlier in the application in which time limits for incubating polynucleotides under stringent conditions are described. Specifically, the teachings of Sambrook et al. (incorporated by reference in the application in its entirety) are disclosed on page 9 of the specification ("Procedures for identifying and isolating DNA") wherein pages 9.47-9.55 of Sambrook et al. teach such art-recognized times for hybridization under stringent conditions (copy of cited teachings submitted herewith as Exhibit 2). Thus, the "metes and bounds" of the hybridization steps would be understood by one skilled in the art.

As is recognized in the art, the most critical aspects of hybridization and wash steps are ionic strength and temperature parameters. Given the range of conditions an experimenter may wish to impose on a hybridization protocol (within the ranges disclosed in the specification), in each case hybridizing polynucleotide molecules reach full equilibration in the stringent chemical environment and temperature in a relatively short time, and disassociation and elution of molecular species requires even less. The skilled artisan knows that these periods are generally on the order of hours for the former and minutes for the latter (see, for example, Sambrook). For all of these reasons it would be trivial for a given experimenter skilled in the art of routine hybridization studies to determine an appropriate time period for successful hybridization and washing given the conditions provided in the specification, particularly given the reference provided and the time parameters taught therein.

Therefore, with the arguments and amendments to claims 1, 4, and 13 set forth above, Applicants respectfully request that the rejection of claims 1-8, 13, 14, and 25 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Rejection of Claims 1-8, 13, 14, 25, and 26 under 35 U.S.C. § 112, first paragraph

The Examiner rejected claims 1-8, 13, 14, 25 and 26 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner stated that Applicant claims an isolated or recombinant polynucleotide comprising a nucleotide sequence encoding a polypeptide comprising a sequence selected from "Appendix A", comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of

said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31 % or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A. The Examiner stated that Applicant also claims transgenic plants comprising a recombinant polynucleotide comprising said nucleotide sequence, a cloning or expression vector comprising said polynucleotide, and a method of producing a plant having a modified characteristic using said polynucleotide.

The Examiner stated that Applicant describes a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, the elected invention, said polynucleotide having been isolated from *Arabidopsis thaliana* and an *Arabidopsis thaliana* plant having a "knockout" of said polynucleotide exhibiting increased susceptibility to *Fusarium* (see Figure 2). The Examiner stated that it is unclear from Figure 2 and the specification if the term "knockout" is to be interpreted as meaning a plant lacking a polynucleotide or a plant in which expression of said polynucleotide has been suppressed in some way.

The Examiner stated that Applicant does not describe other polynucleotides comprising a conservative substituted variant of a polypeptide shown in Appendix A, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31 % or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A". The Examiner stated that Applicant does not describe any unique identifying features of a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, what type of polypeptide is encoded by a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, other than it is a transcription factor, or what "modified trait" a plant comprising a recombinant polypeptide comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31 % or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A would exhibit compared to a wild type plant.

Hence, the Examiner continued, it is unclear from the instant specification that Applicant was in possession of the invention as broadly claimed.

The Examiner stated that, in the instant case, the claimed isolated or recombinant polynucleotide is only described by the function that it encodes a polypeptide that modifies a trait in a plant, and

transgenic plants with a modified trait comprising said polynucleotide. In addition, it is art-recognized that different plant transcription factors regulate different plant traits, and that some plant transcription factors regulate multiple traits. Hence, the Examiner continued, the art recognizes that there is no clear correlation between the structure of a plant transcription factor polynucleotide or the encoded polypeptide and the specific function of the transcription factor, that being the regulation of gene expression in general as opposed to regulating root development, for example.

15. The Examiner stated that claims 1-8, 13, 14, 25 and 26 are rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for an isolated or recombinant polynucleotide encoding the polypeptide encoded by a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, transgenic plant comprising a knockout of said polynucleotide having reduced resistance to fungal pathogens and methods of making said transgenic plant, does not reasonably provide enablement for any polynucleotide encoding a polypeptide that modifies a plant's trait, any plant comprising said polynucleotide and methods of making same. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The Examiner stated that Applicant claims an isolated or recombinant polynucleotide comprising a nucleotide sequence encoding a polypeptide comprising a sequence selected from "Appendix A", comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31 % or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A. The Examiner stated that Applicant also claims transgenic plants comprising a recombinant polynucleotide comprising said nucleotide sequence, a cloning or expression vector comprising said polynucleotide, and a method of producing a plant having a modified characteristic using said polynucleotide.

The Examiner stated that Applicant teaches a transgenic *Arabidopsis thaliana* "knockout" plant in Figure 2, transformed with a polynucleotide having the nucleotide sequence of SEQ ID NO:15. said plant having increased susceptibility to *Fusarium*.

The Examiner stated that Applicant does not teach other polynucleotides comprising a conservative substituted variant of a polypeptide shown in Appendix A, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15

consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31 % or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A. The Examiner stated that Applicant does not teach any unique identifying features of a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, what type of polypeptide is encoded by a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, other than it is a transcription factor, or what "modified trait" a plant comprising a recombinant polypeptide comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A would exhibit compared to a wild type plant. In addition, the Examiner stated, at claim 26, Applicant does not teach altered or altering expression levels of an isolated or recombinant polypeptide in a plant by methods other than overexpression or suppression using a polynucleotide having the sequence of SEQ ID NO: 15.

The Examiner stated that Applicant has provided limited guidance for the claimed invention. The Examiner stated that the specification gives only limited guidance as to what "plant trait" is "modified" in transgenic *Arabidopsis thaliana* plants transformed with the disclosed polynucleotide, specifically a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, of the elected invention. The Examiner stated that Applicant provides no guidance as to what special or specific properties the transcription factor encoded by SEQ ID NO: 15 has that enables said transcription factor to modify a specific plant trait, only that it is a transcription factor. The Examiner stated that Applicant only provides examples directed to transgenic plants transformed with a homologous polynucleotide sequence, applicant does not provide examples of heterologous plants transformed with the disclosed polynucleotide or what plant traits are modified in heterologous plants by the taught transcription factor. The Examiner stated that the art teaches that equivalent or similar biological functions can be controlled by different families of transcription factors and that DNA binding domains that are found in all three eukaryotic kingdoms often control different functions in each one (see Riechmann et al. 2000, *Science* Vol.290, pages 2105-2110, in particular page 2109, left column, last paragraph). Hence, the Examiner concluded, it would have required undue trial and error experimentation by one of skill in the art at the time of Applicant's invention to screen through a myriad of polynucleotides comprising a nucleotide sequence encoding a polypeptide

comprising a conservative substituted variant of a polypeptide shown in Appendix A, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31 % or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A, transform a myriad of plants and determine what polynucleotides modify what plant trait as broadly claimed.

The Examiner stated that at claim 26, it would have required undue trial and error experimentation by one of skill in the art at the time of Applicant's invention to identify all method of altering expression levels or altering the activity of the polypeptide encoded by SEQ ID NO: 15.

In response, Applicants have cancelled claim 26. Applicants have amended claim 1 to recite: "A transgenic plant comprising a recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of: (a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110; (b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110; (c) a nucleotide sequence comprising SEQ ID NO:15; (d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c); (e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and (f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e)".

Applicants have amended claim 4 to recite: "An isolated or recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of: (a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110; (b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110; (c) a nucleotide sequence comprising SEQ ID NO:15; (d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c); (e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and (f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e)".

Applicants have amended claim 13 to recite: "A method for producing a modified plant having a modified trait, the method comprising: (i) transforming a plant with the isolated or recombinant polynucleotide of claim 4, thereby producing a modified plant, and (ii) selecting the modified plant for a

modified trait thereby providing the modified plant with a modified trait, wherein the trait so modified is that of increased resistance to fungal pathogens".

Applicants have removed recitation to "fragment" and "at least 15 consecutive nucleotides of SEQ ID NO:15" in claims 1 and 4.

Applicants respectfully submit that support for interpretation of term "knockout" is to be found in the specification at page 6, lines 14-15; page 36, lines 11-24; and in prior application 60/197,899 filed April 17, 2000, incorporated by reference in its entirety, in which the experimental protocol for producing the G896 polynucleotide "knockout" plant is described (copy of filing receipt and Application Cover Sheet enclosed as Exhibit 3). As shown in a copy of the experimental protocol as originally filed in the above referenced Provisional Patent Application, the G896 "knockout" mutant contains a T-DNA insertion 40 base pairs downstream of the start codon. (Copies of pages in Appendix from application 60/197,899 which disclose G896 (SEQ ID NOs:15 and 110) herewith submitted as "Appendix A")

Applicants further respectfully submit that support for the unique identifying features of the polynucleotide of SEQ ID NO:15 is to be found in the specification in Figure 1 at SEQ ID NO:15, third column, where the polypeptide coding sequence co-ordinates 47-1150 are disclosed, as described in the specification at page 4, lines 4-8. Figure 1, at SEQ ID NO:15, also discloses the conserved domain of the encoded polypeptide, at amino acid coordinates 18-39. Applicants have submitted a substitute "Sequence Listing" which discloses the polypeptide sequence SEQ ID NO:110, which is the polypeptide sequence encoded by SEQ ID NO:15. SEQ ID NO:110 was disclosed as the polypeptide encoded by SEQ ID NO:15 in US Provisional Application Ser. No. 60/197,899, from which the instant application claims priority in part. Applicants respectfully draw the Examiner's attention to the copy of the Filing Receipt of the Provisional Application, as mailed by the PTO on 06/21/2000, as well as Applicants' Cover Sheet, mailed with the Provisional Application on 04/17/2000. The Cover Sheet shows that Applicants included "Appendix" in the filing papers; Applicants submit that the "Appendix" included three pages relating to SEQ ID NO:15 and SEQ ID NO:110 (G896) which disclosed the "knock-out" phenotype, polynucleotide sequence and encoded polypeptide sequence, as well as other polynucleotide and polypeptide homologs identified using BLASTX, copies herewith submitted as "Appendix A".

Figure 2 of the instant application, at SEQ ID NO:15, discloses at columns three and four that when the polynucleotide was experimentally "knocked-out" (KO) in an experimental plant, the resulting plant was more susceptible to *Fusarium* infection. Applicants respectfully submit that one of skill in the art would have a reasonable expectation that a transgenic plan over-expressing SEQ ID NO:15 (G896) would have increased tolerance to infection by *Fusarium*.

Applicants respectfully submit that Applicants disclosed in the specification at page 13, lines 4-19, continued on page 14, lines 1-22, and Table 1, the scope of silent and conservative substitutions in the polynucleotide of the invention.

With the arguments and rebuttals set forth above, together with the amendment of claims 1, 4, and 13, Applicants respectfully request that the rejection of claims 1-8, 13, 14, and 25 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Rejection of Claims 1-8, 13, 14, 25, and 26 under 35 U.S.C. § 102

17. The Examiner rejected claims 1-8, 13, 14, 25, and 26 under 35 U.S.C. § 102(e) as being anticipated by Thomashow *et al* (U.S. Patent 6,417,428, filed 23 November 1998).

The Examiner stated that the limitation at claims 1(e) and 4(e) "hybridizes under stringent conditions" has been found to be indefinite as discussed supra. In addition, the limitation at claims 1 (g) and 4(g) "or fragment encodes a polypeptide that modifies a plant's trait" has been interpreted to the broadest extent, and may encompass any fragment that encodes a polypeptide that modifies a plant's trait, the nucleotide sequence to which said claims is directed may encode a conservatively substituted variant as claimed in claims 1 (b) and 4(b). The Examiner stated that Thomashow discloses a transgenic plant with the modified trait of enhanced freezing tolerance, said transgenic plant having been transformed with an expression vector comprising a constitutive promoter operably linked to a polynucleotide comprising a nucleotide sequence comprising a fragment of Applicant's SEQ ID NO: 15 that encodes a polypeptide that modifies a plant's trait, that being the *Arabidopsis thaliana* transcription factor CBF1, SEQ ID NO: 12, for example (see claims 9 and 28). The Examiner stated that said transgenic plant over-expresses the CBF1 transcription factor and alters the transgenic *Arabidopsis* plant's tolerance to freezing. The Examiner stated that Thomashow also discloses a method of producing a plant having a modified characteristic (see claim 11). Hence, the Examiner concluded, Thomashow has previously disclosed all of the claim limitations.

18. The Examiner rejected claim 4 under 35 U.S.C. § 102(b) as anticipated by Newman *et al.* 1994 (Plant Physiology 106:1241-1255) taken with the evidence of Newman 1998 (Genbank Accession Number H76651, submitted 5 January 1998).

The Examiner stated that Newman discloses an isolated polynucleotide comprising a nucleotide sequence comprising at least 15 consecutive nucleotide of SEQ ID NO: 15, said polynucleotide would hybridize under "stringent conditions" to a polynucleotide having the nucleotide sequence of SEQ ID NO:

15 (see Genbank Accession Number H76651). The Examiner stated that the polynucleotide of Newman from base-pair 30-427 is 92.7% similar to Applicant's SEQ ID NO: 15 from base-pair 1-398.

In response, Applicants have amended claim 1 to recite: "A transgenic plant comprising a recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of: (a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110; (b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110; (c) a nucleotide sequence comprising SEQ ID NO:15; (d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c); (e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and (f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e)".

Applicants have amended claim 4 to recite: "An isolated or recombinant polynucleotide comprising a nucleotide sequence selected from the group consisting of: (a) a nucleotide sequence encoding a polypeptide comprising SEQ ID NO:110; (b) a nucleotide sequence encoding a polypeptide comprising a conservatively substituted variant of the polypeptide of SEQ ID NO:110; (c) a nucleotide sequence comprising SEQ ID NO:15; (d) a nucleotide sequence comprising silent substitutions in the nucleotide sequence of (c); (e) a nucleotide sequence which hybridizes under stringent conditions to a polynucleotide comprising a nucleotide sequence of one or more of: (a), (b), (c), or (d); and (f) a nucleotide sequence comprising the complementary nucleotide sequence of a nucleotide sequence of (a), (b), (c), (d), or (e)".

Applicants' arguments regarding the validity of reciting time limits as parameters for stringent hybridization conditions are discussed *supra*. Applicants have removed recitation to "fragment" and "at least 15 consecutive nucleotides of SEQ ID NO:15" in claims 1 and 4.

Applicants have canceled claim 26. Therefore, with the amendments to claims 1 and 4 set forth above, Applicants respectfully request that the rejection of claims 1-8, 13, 14, and 25 under 35 U.S.C. § 102 (e) and of claim 4 under 35 U.S.C. § 102 (b), be withdrawn.

CONCLUSION

Applicants have requested a two (2) month extension of time to respond to the Examiner's instant Office Action. Applicants believe that no additional fee is due with this communication. However, if the USPTO determines that a fee is due, the Commissioner is hereby authorized to charge Mendel

Biotechnology, Inc. Deposit Account No. **501025. This form is enclosed in duplicate.**

Respectfully submitted,
MENDEL BIOTECHNOLOGY, INC.

Date: Dec 27, 2002

Jeffrey M. Libby, Ph.D.
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Fax: (650) 845-4166

I hereby certify that this document and ref ed attachments are being deposited with the United States Postal Service with sufficient postage as first class mail, addressed to: Commisioner for Patents, Washington, D.C., 20231, on April 15, 2003

By: Kathleen K. Muto

Printed: Kathleen Muto

EXHIBIT E

Docket No. MBI-0022

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Keddie, James et al.

Title: **GENES FOR MODIFYING PLANT TRAITS**

Serial No.: 09/713,994 Filing date: 16 November 2000

Examiner: Kruse, David H. Group Art Unit: 1638

Commissioner of Patents and Trademarks
Washington, D.C. 20231

SUBMISSION OF COURTESY COPY OF COMPUTER READABLE FORM (CD) COMPRISING "APPENDIX A" AS ORIGINALLY FILED

Dear Sir:

Pursuant to 37 C.F.R. § 1.182, Applicants respectfully request a Corrected Filing Receipt for the instant application:

1. Applicants respectfully submit that an appendix (Appendix A), which included data summaries, polypeptide and polynucleotide sequences in a computer readable format on a compact disc (CD), was included with the instant patent application (No. 09/713,994) at the time of filing of the instant application. However, the original CD as filed which contained Appendix A was lost or misplaced by the USPTO.

2. Applicants have previously submitted a copy of the Patent Application Transmittal Form which clearly shows that a set of CD-ROMs were submitted as an Appendix (see Box 7 of Application Elements) (Exhibit 1) in a Response to Office Action and Amendment, filed 30 December, 2002. A courtesy copy of the the Patent Application Transmittal Form is also included with this communication.

3. Applicants have also previously submitted a copy of Appendix A with the parent Provisional Application 60/197,899, filed April 17, 2000, entitled "Plant Trait Modification II". A copy of the Cover Sheet submitted with application 60/197,899, which shows the Appendix as part of the Enclosed Application Parts, is attached. Also attached are three pages of the Appendix as filed with the provisional application and the instant application,"Summary of G896", in which the G896 polynucleotide and G896 polypeptide sequences, SEQ ID NO: 15 and 110, respectively, were included.

4. Appendix A as submitted with the instant application at the time of filing contained the polynucleotide and polypeptide sequences for SEQ ID NO: 110 (G896). SEQ ID NO: 110 was identified in the substitute sequence listing filed 30 December, 2002. This sequence may be found in the file "seq.htm" located in the contents of the CD by the path: "gfr\G896\ seq.htm ".

5. A courtesy copy of Appendix A on a CD is included herewith.

6. The contents of the CD, i.e., Appendix A, including all of data and sequences within Appendix A, and including that of SEQ ID NO: 110, are identical to that contained in the original CD, i.e., Appendix A, submitted at the tme the instant application was filed.

7. Applicants believe that no fee is due for the request of this Corrected Filing Receipt. However, if the Commissioner determines that a fee is due, the Commissioner is hereby authorized to charge such necessary fee to Mendel Biotechnology, Inc. Deposit Account No. **50-1025**. This form is enclosed in duplicate.

Respectfully submitted,

Date: 15 April, 2003 By: _____

Jeffrey M. Libby, Ph.D.
Registration No. 48,251

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FIRST CLASS MAIL

Docket No. **MBI-0022**
Date 15 April 2003

Commissioner for Patents
Washington DC 20231

USSN 09/713,994
Title: GENES FOR MODIFYING PLANT TRAITS
Inventors: KEDDIE, James et al.

Enclosed:

X 1 Return Receipt Postcard;
X 1 Transmittal Form (1 pg, in duplicate);
X 1 Fee Transmittal Sheet (1 pg, in duplicate);
X 1 Submission of Courtesy Copy of CRF Comprising "Appendix A" as Originally Filed (7 pgs., in duplicate); and
X 1 CD comprising "Appendix A" As Originally Filed, in Computer-readable format.

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/713,994
Filing Date	11/16/2000
First Named Inventor	KEDDIE, James
Group Art Unit	1638
Examiner Name	D. H. Kruse
Total Number of Pages in This Submission: 18	Attorney Docket Number: MBI-0022

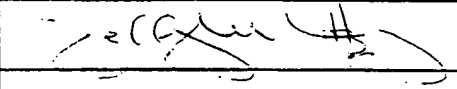
ENCLOSURES *(check all that apply)*

- [✔] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment / Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers *(for an Application)*
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [✔] CD, Number of CD(s) 1
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- [ ] Proprietary Information
- [ ] Status Letter
- [✔] Other Enclosure(s) *(please identify below)*:

Return Receipt Postcard; Submission of Courtesy Copy of "Appendix A", As Originally Filed (7 pgs., in duplicate); One (1) CD comprising "Appendix A" as originally filed, in computer-readable format.

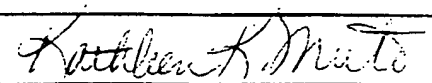
Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Mendel Biotechnology, Inc. Jeffrey M. Libby, Reg. No. 48251 21375 Cabot Blvd., Hayward, CA 94545
Signature	
Date	April 15, 2003

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: 04/15/03

Typed or printed name	Kathleen K. Muto		
Signature		Date	4-15-2003

Summary of Knockout G896, Family Z-LSDlike

Mendel Biotechnology, Inc.

- Executive Summary
- Overview
- November 2000 Notes

Traits
- November 2000 Traits
- August 2000 Traits
- April 2000 Traits
- November 1999 Traits
- All Traits
- Corrigenda

Genes
- November 2000 Genes
- Index by Gene ID
- Index by Family
- Index by Keyword
- DNA FASTA files

Assays
- Gene Expression
- Morphology
- Physiology
- Biochemistry
- Microarrays

Approach
- Gene Determination
- Overexpression
- Knockouts
- Vector Information
- Bioinformatics
- Growth Facilities

People
- Staff
- Advisory Board

- Home Page

Published Information

Part of the G896 sequence was first identified as an MSU EST (T45249). No published data is associated with G896. G896 encodes a member of the zinc finger family that is related to LSD-1

Mendel Discoveries

A knock-out mutant was isolated at Mendel, which contains a T-DNA insertion 40 base pairs downstream of the start codon. G896 knock-out plants are more susceptible to Fusarium oxysporum. In addition, G896 knockout plants have lower levels of lutein in seeds as compared to wild-type control plants (the data is in the process of being repeated). Otherwise, the knock-out plants have a wild-type morphological phenotype. In wild-type plants, G896 is mostly expressed in roots. Changes in environmental conditions do not affect its expression.
Given the disease and biochemical phenotypes of the knock-out plants, we would recommend overexpressing G896 and look for the opposite phenotypes in transgenic plants.

Closely Related Genes from Other Species

G896 is very similar to a peppermint EST (AW255156). Since the homology extends beyond the conserved domain, there is a chance the G896 and the mint gene are orthologues.

Utilities

Since G896 transgenic plants have an altered response to the fungal pathogen Fusarium oxyporum, the gene could be used to manipulate the defense response in order to generate pathogen-resistant plants.

Gene and Trait Disclosure Chronology

April 2000 Analyzed as Knockout

April 2000 Increased susceptibility to Fusarium

References

Dietrich RA, Richberg MH, Schmidt R, Dean C, Dangl JL A novel zinc finger protein is encoded by the Arabidopsis LSD1 gene and functions as a negative regulator of plant cell death (1997) Cell 88(5):685-94

Keywords

Fusarium

Knockout Status

Homozygous KO plant identified

Collection	Jack1
Orientation	5LB
Insertion Point Gap	1

Sequences of G896, Family Z-LSDlike

Mendel Biotechnology, Inc.

Summary | Sequence | Expression | Morphology | Physiology | Biochemistry | Micrc

- Executive Summary
- Overview
- November 2000 Notes

Traits

- November 2000 Traits
- August 2000 Traits
- April 2000 Traits
- November 1999 Traits
- All Traits
- Corrigenda

Genes

- November 2000 Genes
- Index by Gene ID
- Index by Family
- Index by Keyword
- DNA FASTA files

Assays

- Gene Expression
- Morphology
- Physiology
- Biochemistry
- Microarrays

Approach

- Gene Determination
- Overexpression
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- Vector Information
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- Growth Facilities

People

- Staff
- Advisory Board

- Home Page

TBLASTX versus GenBank non-Arabidopsis plant DNA

```
BE412616 2.4e-101  [Hordeum vulgare] MCG002.A02R990625 ITEC MCG Barley
AW731248 4.5e-82   [Gossypium arboreum] GA__Ea0030C19 Gossypium arboreu
AW255156 2.2e-79   [Mentha x piperita] ML1467 peppermint glandular tric
AI727328 2.7e-73   [Gossypium hirsutum] BNLGHi7759 Six-day Cotton fiber
BE587229 3.0e-68   [Secale cereale] WHE0510_E12_I24ZR Secale cereale al
AV429270 1.4e-63   [Lotus japonicus] AV429270 Lotus japonicus young pla
BE023519 1.7e-60   [Glycine max] sm71g04.y1 Gm-c1028 Glycine max cDNA c
AW030182 5.6e-58   [Lycopersicon esculentum] EST273437 tomato callus, T
BE356681 1.2e-53   [Sorghum bicolor] DG1_12_C05.b1_A002 Dark Grown 1 (D
AW691678 1.0e-51   [Medicago truncatula] NF043B08ST1F1000 Developing st
```

BLASTX versus GenBank non-Arabidopsis plant peptide sequences

```
gi4235430   1.6e-12   [Hevea brasiliensis] latex-abundant protein.
gi100216    0.007500 [Lycopersicon esculentum] extensin class II (clone
gi21992     0.041000 [Volvox carteri] extensin.
gi790473    0.059000 [Nicotiana tabacum] soluble, glycine rich protein.
gi22550     0.280000 [Zea mays] 27kDa storage protein, zein.
gi530876    0.340000 [Chlamydomonas reinhardtii] amino acid feature: Ro
gi871498    0.350000 [Oryza sativa] DNA binding protein.
gi1903264   0.450000 [Pisum sativum] hypothetical protein.
gi671656    0.560000 [Sorghum bicolor] gamma-kafirin preprotein.
gi4584086   0.610000 [Spermatozopsis similis] p210 protein.
```

Only best homology for each organism shown. See linked BLAST reports fo

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DNA sequence used for BLAST

>G896 (gf=45) (nid=1877523,62271,63814) (acc=U89959) 1877523 gi|1877523

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Amino Acid Sequence

>G896 Amino Acid Sequence

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YAKPFTL*

cDNA Sequence

>G896 cDNA Sequence

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Genomic Sequence

>G896 Genomic Sequence

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CTTGCCAAACATTCGATGTCTATGCAAAGCCTTTCACTCTCTAG

Fri Nov 10 19:17:57 PST 2000

EXHIBIT F

Interview Summary	Application No.	Applicant(s)	
	09/713,994	KEDDIE ET AL.	
	Examiner	Art Unit	
	David H Kruse	1638	

All participants (applicant, applicant's representative, PTO personnel):

(1) *David H Kruse*. (3)_____.

(2) *Jeffrey Libby*. (4)_____.

Date of Interview: *31 March 2003*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *9-12 and 15-24*.

Identification of prior art discussed: *none*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Applicant's representative was contacted to clarify the status of claims 9-12 and 15-24 per pages 2 and 5 of the 30 December 2002 response. A supplemental amendment was requested to clarify the issue. In addition, the Examiner requested a copy of the Appendix A originally filed in CD format to the file*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

#17 B 4-3.

MBI-0022

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office (Fax No: (703) 746-5068 on March 31, 2003
Typed name of person signing this Certificate: Kathleen Muto
Signature: Kathleen K Muto

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: KEDDIE et al.
Title: **GENES FOR MODIFYING PLANT TRAITS**

Serial No.:	09/713,994	Filing Date:	16th November, 2000
Examiner:	KRUSE, D.H.	Group Art Unit: 1638	

Commissioner for Patents
Washington, D.C. 20231

SUPPLEMENTAL AMENDMENT

Dear Sir:

In response to a telephonic request by Examiner Kruse, the following supplemental amendment is submitted.

In the claims

Please cancel claims 9-12, 15-24, and 26.

Applicants believe no new matter is introduced by these amendments, and no additional fee is due with this communication. However, if the USPTO determines that a fee is due, the Commissioner is authorized to charge Mendel Biotechnology Inc. Deposit Account No. 501025.

Please direct all telephone calls to Jeffrey M. Libby at 510-259-6138.

Respectfully submitted,

Date: March 31, 2003

Jeffrey M. Libby, Ph.D.
Reg. No. 48,251

Mendel Biotechnology, Inc
21375 Cabot Blvd
Hayward, CA 94545

EXHIBIT G

PATENT
Docket No. 514442001900
Clt. Ref: MBI-0022

CERTIFICATE OF MAILING BY "FIRST CLASS MAIL"

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LILIA OLSEN

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

James KEDDIE, et al.

Serial No.: 09/713,994

Filing Date: November 16, 2000

For: GENES FOR MODIFYING PLANT TRAITS

Examiner: D. Kruse

Group Art Unit: 1638

REVOCATION OF PRIOR POWER OF ATTORNEY AND POWER OF ATTORNEY AND PROSECUTION BY ASSIGNEE UNDER 37 C.F.R. § 3.71

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

MENDEL BIOTECHNOLOGY, INC., the assignee of the entire right, title and interest in this patent/patent application, hereby revokes all Powers of Attorney previously granted relating to this application and appoint as its attorneys or agents, with full power of substitution, association, and revocation, to prosecute this application and to transact all business in the United States Patent and Trademark Office connected herewith:

Lisa A. Amii (Reg No. 48,199)
Mehran Arjomand (Reg No. 48,231)
Erwin J. Basinski (Reg No. 34,773)
Richard R. Batt (Reg No. 43,485)
Jonathan Bockman (Reg No. 45,640)
Barry E. Bretschneider (Reg No. 28,055)
Nicholas Buffinger (Reg No. 39,124)
Randolph Ted Apple (Reg No. 36,429)
Laurie A. Axford (Reg No. 35,053)
Shantanu Basu (Reg No. 43,318)
Vincent J. Belusko (Reg No. 30,820)
Kimberly A. Bolin (Reg No. 44,546)
Tyler S. Brown (Reg No. 36,465)
A. Randall Camacho (Reg No. 46,595)

Mark R. Carter (Reg No. 39,131)
Peng Chen (Reg No. 43,543)
Thomas Chuang (Reg No. 44,616)
Cara M. Coburn (Reg No. 46,631)
Raj S. Davé (Reg No. 42,465)
David Devernoe (Reg No. P-50,128)
Stephen C. Durant (Reg No. 31,506)
Elisabeth M. Evertsz (Reg No. 50,304)
David L. Fehrman (Reg No. 28,600)
Thomas George (Reg No. 45,740)
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Douglas G. Hodder (Reg No. 41,840)
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Michael J. Mauriel (Reg No. 44,226)
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E. Thomas Wheelock (Reg No. 28,825)
Eric Witt (Reg No. 44,408)
David T. Yang (Reg No. 44,415)
George C. Yu (Reg No. 44,418)

all of Morrison & Foerster LLP, 425 Market Street, San Francisco, California 94105-2482, telephone: (415) 268-7000, and the following agents not currently affiliated with the law firm of Morrison & Foerster LLP,

Matthew Kaser (Reg. No. 44,817)

Jeffrey M. Libbey (Reg. No. 48,251)

said appointment to be to the exclusion of the inventors and their attorneys in accordance with the provisions of 37 C.F.R. § 3.71, provided that if any one of said Morrison & Foerster LLP, attorneys or agents ceases being affiliated with the law firm of Morrison & Foerster LLP,, as

partner, employee or of counsel, such attorney's or agent's appointment as attorney or agent and all powers derived therefrom shall terminate on the date such attorney or agent ceases being so affiliated.

Please direct all communications relative to this application to:

Michael R. Ward
Morrison & Foerster LLP
425 Market Street
San Francisco, California 94105-2482

Please direct all telephone communications to Michael R. Ward at (415) 268-6237.

MENDEL BIOTECHNOLOGY, INC.
a California corporation

Dated: July 30, 2002

William F Goure

Name: William Goure
Title: Vice President
Address: 21375 Cabot Boulevard
Hayward, CA 94545

Please type a plus sign (+) inside this box → [+]

PTO/SB/21 (08-00)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number Of Pages In This Submission	32

Application Number	09/713,994
Filing Date	November 16, 2000
First Named Inventor	James KEDDIE, et al.
Group Art Unit	1638
Examiner Name	D. Kruse
Attorney Docket No.	514442001900

ENCLOSURES (check all that apply)

- [ ] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment / Reply
  - [ ] After Final
  - [ ] Affidavits/declarations
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers *(for an Application)*
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [x] **Revocation of Prior Power of Attorney and Power of Attorney and Prosecution by Assignee - 3 pgs**
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s)_____
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
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- [ ] Proprietary Information
- [ ] Status Letter
- [x] Other Enclosure(s) *(please identify below):)*

1) Certificate Under 37 C.F.R. § 3.73(b) - 1 pg
2) Copy of Assignment documents as filed - 27 pgs

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SIGNATURE OF APPLICANT, ATTORNEY OR AGENT

Firm or Individual Name	**Morrison & Foerster LLP** **425 Market Street, San Francisco, CA 94105-2842** **Michael R. Ward (Reg. No. 38,651)**
Signature	Michael R. Ward
Date	**August 5, 2002**

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LILIA OLSEN

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INVENTORS(s): James Keddie, et al.
USSN: 09/713,994
FILED: November 16, 2000

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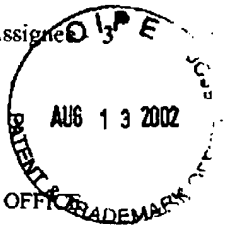
Title: Genes for Modifying Plant Traits

DATE MAILED: August 5, 2002

1. Transmittal - 1 pg
2. Revocation of Prior Power of Attorney and Power of Attorney by Assignee - 3 pgs
3. Certificate Under 37 C.F.R. 3.73(b) - 1 pg
4. COPY of Assignment documents as filed - 27 pgs
5. This return receipt postcard.



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